



SEQUENCE LISTING

<110> Li, Zhijian T
Gray, Dennis J

<120> Bi-Directional Dual Promoter Complex with Enhanced Promote Activity for Transgene Expression in Eukaryotes

<130> 7270-72978

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<141> 2002-02-13

<150> 60/268,358

<151> 2001-02-13

<160> 18

<170> PatentIn version 3.1

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720
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780
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840
caagttcaaa attcataaaac gtcaatcttg gctaaatttc tgaacatcaa tgcattcctt
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1140
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1320
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1380
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1440
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1544

<210> 12
<211> 1544
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<213> unknown

<220>
<223> Unknown Organism

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120

tcgaagtctg agtaattgaa ttttcttcta tatctgagta attgaatttt cttctatatc
180

taaggttgtg ttcaagtttt aagtatttgc agttagaacc gatttaaaga cttgttagtta
240

cgttaaggaaa ttttatatct attattcaat cctacaacag tgaaagaatt tcgtataagg
300

ctgactcaga ccatcttaga gtatttgaaa tccggaatag agaagttaat ccgttaatga
360

atggaggcga gatgaaattc ttttaagtta cctcatgtgg taataattca agtataatttt
420

tatTTTATA taattaagac agagaacaac caagcgagat agaaaaagac aaaaggacga
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agttggtatt gtatatgttc ttgatgtaaa aggttcgatc tatatagatt gtactgactg
540

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600

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tacccaaaagt agtcatact gattaccgcc gagaatagag tgcactacac tgtaacttta
720

agaaaactgaa attgtgatta cagtatacga aagttaatt attaggctat ttcgacgtct
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gagtaattga attttcttct atatctgagt aattgaattt tcttctatat ctaagggttgt
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960

accatcttag agtatttgaa atccggaata gagaagttaa tccgttaatg aatggaggcg
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agatgaaatt cttaagttt acctcatgtg gtaataattc aagtatattt ttatTTaat
1080

ataattaaga cagagaacaa ccaagcgaga tagaaaaaga caaaaggacg aagttggat
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1200

aagaaaaacgg ttcaatttct ttttttact acaataggtt tattattctt cttctcgaaa
1260

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1320

tagttcatac tgattaccgc cgagaataga gtgcactaca ctgtactttt aagaaactga
1380

aattgtgatt acagtatacg aaagtttaat tattaggcta tttcagacga ttgtacactg
1440

aaaggttaaa aaaagaaaat gttAACGTC tgaaaagttg agaataaggg ataattttgg
1500

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<210> 13
<211> 1465
<212> DNA
<213> unknown

<220>

<223> Unknown Organism

<400> 13

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120

taccacaaaa gcttagttga taaaatattt ttatgggtt gtaattttgt aatatcccg
180

gatatttcac aaattgaaca tagactacag aattttagaa aacaaacttt ctctctctta
240

tctcaccttt atcttttaga gagaaaaagt tcgattccg gttgaccgga atgtatctt
300

gttttttttg tttttaaca tatttcgttt tccgattttag atcggatctc ctttccggtt
360

ttgtcggacc ttcttcgggtt ttatccggat ctaataataat ccatcttaga cttagctaag
420

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480

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540

gatttggat agctactcta tgtatcagac cctgaccaag atccaacaat ctcataggtt
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660

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720

gtgggctggg cttctgcag ttgataaaat attttattt ggttgtaatt ttgtaatatc
780

ccggatatt tcacaaattt aacatagact acagaattt agaaaacaaa ctttctct
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cttatctcac ctttatctt tagagagaaa aagttcgatt tccggttgac cgaaatgtat

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1020
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1080
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1200
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1260
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1320
gaaagtggc tggccctttt gtggtaaagg cctgtaacct agccaaat tagcaaaacc
1380
ctagacgcgt acattgacat atataaacc gcctcctcct tgtagggt ttctacgtga
1440
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1465

<210> 14
<211> 1465
<212> DNA
<213> unknown

<220>
<223> Unknown Organism

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120

atgggtttt cgaatcaact attttataaaa aataaaccaa cattaaaaca ttatagggcc
180

ctataaagtg ttaacttgt atctgatgtc taaaatctt ttgttgaaa gagagagaat
240

agagtggaaa tagaaaatct ctctttca agctaaaggc caactggcct tacatagaaa
300

caaaaaaaaaac aaaacattgt ataaagcaaa aggctaaatc tagcctagag gaaaaggcaa
360

aacagcctgg aagaaggcca aataggccta gattattata ggtagaatct gaatcgattc
420

aaaccttagac aaaaaaccaa tcgagaacag ttagcggagt agtagtcgtt cttccacttt
480

aaaaactgtt tatttagaat cttagtacat cacagaaacc tggaaccctt actatcttg
540

ctaaacaata tcgatgagat acatagtctg ggactgggtc tagttgtta gagtatccaa
600

aacacgtata ctttggaaagc tgattgctct tcaccagaaa attactctct ctatagattt
660

tacaatagaa tttcgggtg agtttagagt tccgtattcc atcttacgt ttaaaccttt
720

caccgcaccc ggaagacgtc aactattta taaaaataaa ccaacattaa aacattatag
780

ggccctataa agtgttaac ttgtatctga tgtcttaaaa tctttgttt gaaagagaga
840

gaatagagtg gaaatagaaa atctctttt ttcaagctaa aggccaactg gccttacata
900

gaaacaaaaaa aaacaaaaca ttgtataaaag caaaaggcta aatctgcct agaggaaaag
960

gcaaaacagc ctggaagaag gccaaatagg cctagattat tataaggtaga atctgaatcg
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attcaaacct agacaaaaaa ccaatcgaga acagttagcg gagtagtagt cgttcttcca
1080

ctttaaaaac tgtttattta gaatcttagt acatcacaga aacctggaac ccttactatc
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1200

ccaaaacacg tatactttgg aagctgattg ctcttcacca gaaaattact ctctctatag
1260

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cttcacccg acccgaaaaa caccattcc ggacattgga tcgggttata atcgaaaaatgg
1380

gatctgcgca tgtaactgta tatatttggg cggaggagga acaaatccca aagatgcact
1440

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1465

<210> 15
<211> 1618
<212> DNA
<213> unknown

<220>
<223> Unknown Organism

<400> 15
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120

tcaaggcca aaatgacacg gaaaaatata aaaggataag tagtggggga taagattcct
180

ttgtgataag gttactttcc gaagcttagt tgataaaata ttttatttg gttgtaattt
240

tgtaatatcc cggatattt cacaattga acatagacta cagaattta gaaaacaaac
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tttctctctc ttatctcacc tttatctttt agagagaaaa agttcgattt ccgggttgacc
360

ggaatgtatac tttgtttttt ttgttttgta acatatttcg ttttccgatt tagatcgat
420

ctcctttcc gtttgcgg accttcttcc ggatatccg gatctaataa tatccatctt
480

agacttagct aagtttggat ctgttttg gttagctctt gtcaatcgcc tcatacatcag
540

caagaaggta aaattttga caaataaaatc tttagaatcat gtagtgtctt tggaccttgg
600

gaatgataga aacgatttgc tatagctact ctatgtatca gaccctgacc aagatccaac
660

aatctcatag gtttgcga tatgaaacct tcgactaacg agaagtggtc tttaatgag
720

agagatatct aaaatgttat cttaaaagcc cactcaaatac tcaaggcata agtagaaat
780

gcaaatttgg aaagtggcgt gggccttctg cagtgataa aatatttttta tttgggtgt
840

atttgtat atcccggat attcacaaa ttgaacatag actacagaat tttagaaaac
900

aaactttctc tcttttatct caccttatac ttttagagag aaaaagttcg attccgggt
960

gaccggaatg tatctttgtt tttttgttt tgtaacatat ttgcgtttcc gatttagatc
1020

ggatctcctt ttccgttttg tcggaccttc ttccggttta tccggatcta ataatatcca
1080

tcttagactt agctaagttt ggatctgttt tttggtagc tcttgtcaat cgccatca
1140

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1200

ttggaatga tagaaacgat ttgttatacg tactctatgt atcagaccct gaccaagatc
1260

caacaatctc ataggtttg tgcatatgaa accttcgact aacgagaagt ggtctttaa
1320

tgagagagat atctaaaatg ttatcttaaa agcccaactca aatctcaagg cataaggtag
1380

aatgcaaat ttggaaagtg ggctgggcct tggtaaccgg aaagtaacct tatcacaaag
1440

gaatcttatac ccccaactact tatttttttta tattttccg tgtcattttt gcccttgagt
1500

tttcctatat aaggaaggaa gttcggcatt tgtgaaaaca agaaaaaatt tggtgtaagc
1560

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1618

<210> 16
<211> 1618
<212> DNA
<213> unknown

<220>
<223> Unknown Organism

<400> 16
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120

agttcccggtt ttactgtgc cttttatat ttcttatttc atcacccccattt attctaagga
180

aacactatttc caatgaaagg ctgcgttca actatttat aaaaataaac caacattaa
240

acattatagg gccctataaa gtgttaact tgtatctgat gtctaaaag ctgttttttg
300

aaagagagag aatagagtgg aaatagaaaa tctcttttt tcaagctaaa ggccaactgg
360

ccttacatag aaacaaaaaa aacaaaacat tgtataaagc aaaaggctaa atctacgttca
420

gaggaaaagg caaaacagcc tggaagaagg ccaaataaggc ctagattatt ataggttagaa

480

tctgaatcga ttcaaaccct aaaaaaaaaac caatcgagaa cagtttagcgg agtagtagtc
540

gttcttccac tttaaaaact gtttatttag aatcttagta catcacagaa acctggaacc
600

cttactatct ttgctaaaca atatcgatga gatacatagt ctgggactgg ttctaggttg
660

ttagagtatc caaaaacacgt atactttgga agctgattgc tcttcaccag aaaattactc
720

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780

cgtttaaacc tttcacccga cccggaagac gtcaactatt ttataaaaat aaaccaacat
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taaaacatta tagggcccta taaagtgttt aacttgtatc tgatgtctta aaatctttg
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960

ctggccttac atagaaacaa aaaaaacaaa acattgtata aagcaaaagg ctaaatctag
1020

cctagagggaa aaggcaaaac agcctggaag aaggccaaat aggcttagat tattataggt
1080

agaatctgaa tcgattcaaa cctagacaaa aaaccaatcg agaacagtta gcggagtagt
1140

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1200

aacccttact atctttgcta aacaatatcg atgagataca tagtctggga ctggttctag
1260

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1320

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1380

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1440

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1500

aaaggatata ttccttggtt caagccgtaa acactttgt tctttttaa accacattcg
1560

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1618

<210> 17

<211> 1524

<212> DNA

<213> unknown

<220>

<223> Unknown Organism

<400> 17

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aaggatagtg ggattgtgcg tcataccctta cgtcagtggaa gatactgcag aagcttcaga
120

ctcattaact taaaagaaga tatagactca ttaacttaaa agaagatata gattccaaca
180

caagttcaaa attcataaac gtcaatcttgc gctaaatttc tgaacatcaa tgcattcctt
240

taaaatatacg ataataagtt aggatgttgc cactttctta aagcatattc cgactgagtc
300

tggtagaatc tcataaactt taggccttat ctcttcaatt aggcaattac ttacccgc
360

tctactttaa gaaaattcaa tggagtacac cattattaag ttcatataaa aataaaatta
420

tattaattct gtctttgtt ggttcgctct atcttttctt gtttcctgc ttcaaccata
480

acatatacaa gaactacatt ttccaagcta gatatatcta acatgactga ctttgtaaat
540

ttctttgcc aagttaaaga aaaaaaaatga tgttatccaa ataataaaga gaaagagccc
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660

atcaagtatg actaatggcg gctcttatct cacgtgatgt gacattgaaa ttcttgact
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ttaacactaa tgtcatatgc tttcaaatta ataatccgat aaagctgcag actcattaac
780

ttaaaagaag atatagactc attaacttaa aagaagatata agattccaac acaagttcaa
840

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gataataagt taggatgttgc tcactttctt aaagcatatt ccgactgagt ctggtagaat
960

ctcataaaact ttaggcctta tctcttcaat taggcaatta cttacctccg ctctacttta
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agaaaattca atggagtaca ccattattaa gttcatataa aaataaaatt atattaattc
1080

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1140

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1200

caagttaaag aaaaaaaatg atgttatcca aataataaag agaaagagcc ctaatgaaaa
1260

aaatgattta ctattagagt tgttcagcta atcacatcaa ttatggttt catcaagtat
1320

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1380

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1440

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1524

<210> 18
<211> 1524
<212> DNA
<213> unknown

<220>
<223> Unknown Organism

<400> 18
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120

gagtaattga attttcttct atatctgagt aattgaattt tcttctataat ctaaggttgt
180

gttcaagttt taagtatttg cagttagaac cgatttaaag actttagttt acgtaaggaa
240

attttatatc tattattcaa tcctacaaca gtgaaagaat ttcgtataag gctgactcag
300

accatcttag agtatttcaa atccggaata gagaagttaa tccgttaatg aatggaggcg
360

agatgaaatt ctttaagtt acctcatgtg gtaataattc aagtatattt ttatTTTaat
420

ataattaaga cagagaacaa ccaagcgaga tagaaaaaga caaaaggacg aagttggat
480

tgtatatgtt cttgatgtaa aaggttcgat ctatataatgt tgtactgact gaaacattta
540

aagaaaagcc ttcaatttct ttttttact acaataggtt tattatttct ctttctcgaa
600

attacttttt ttactaaatg ataatctcaa caagtcgatt agttagttt ataccaaaaag
660

tagttcatac tgattaccgc cgagaataga gtgcactaca ctgttaacttt aagaaaactga
720

aattgtgatt acagtatacg aaagtttaat tattaggcta tttcgacgtc tgagtaattg
780

aattttcttc tatatctgag taattgaatt ttcttctata tctaaggttg tgttcaagtt
840

ttaagtattt gcagtttagaa ccgatttaaa gacttgtagt tacgttaagga aattttatat
900

ctattattca atccctacaac agtggaaagaa tttcgatataa ggctgactca gaccatctta
960

gagtatttga aatccggaat agagaagtta atccgttaat gaatggaggg gagatgaaat
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tcttttaagt tacctcatgt ggtaataatt caagtatatt tttatTTAA tataattaag
1080

acagagaaca accaagcgag atagaaaaag acaaaaggac gaagttggta ttgtatatgt
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1200

gttcaatttc tttttttac tacaatagggt ttattatttc tctttctcg gattacttt
1260

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1320

ctgattaccg ccgagaatag agtgcactac actgtaactt taagaaactg aaattgtgat
1380

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1500

taaacctctc ctgtgcgacc tagg
1524